



Photoelectric sensors  
TranspaTect, Photoelectric proximity sensor,  
Foreground suppression

WTF12G-3N2432



**Model Name** > [WTF12G-3N2432](#)  
**Part No.** > [1066279](#)



*Illustration may differ*

**At a glance**

- High-performance SICK technology
- No reflectors required
- Existing machine parts are used as reference target
- AutoAdapt for continuous threshold adaptation in contaminated conditions
- PinPoint LED with bright and precise light spot
- Easy-to-use teach-in button
- Status LEDs visible from all sides
- Rugged metal housing (PTFE coating available on request)

**Your benefits**

- Reliable detection of transparent and semitransparent objects without a reflector
- Reliable detection of objects regardless of color or surface qualities
- Freedom of machine design: no mounting system for the installation of a reflector required
- Quick commissioning: there is no need to mount a reflector or precisely adjust the sensor
- High operational safety: if the background becomes contaminated, object detection will continue uninterrupted
- Machine downtime is minimized: the integrated AutoAdapt function extends the time between cleanings
- Heightened productivity: mechanical and chemical ruggedness due to the metal housing



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Foreground suppression
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	150 mm ... 700 mm <sup>1)</sup>
Sensing range:	0 mm ... 450 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	PinPoint LED <sup>3)</sup>
Teach-in:	Single teach-in button
Adjustment:	Teach-in
Light spot size (distance):	Ø 8 mm (300 mm)

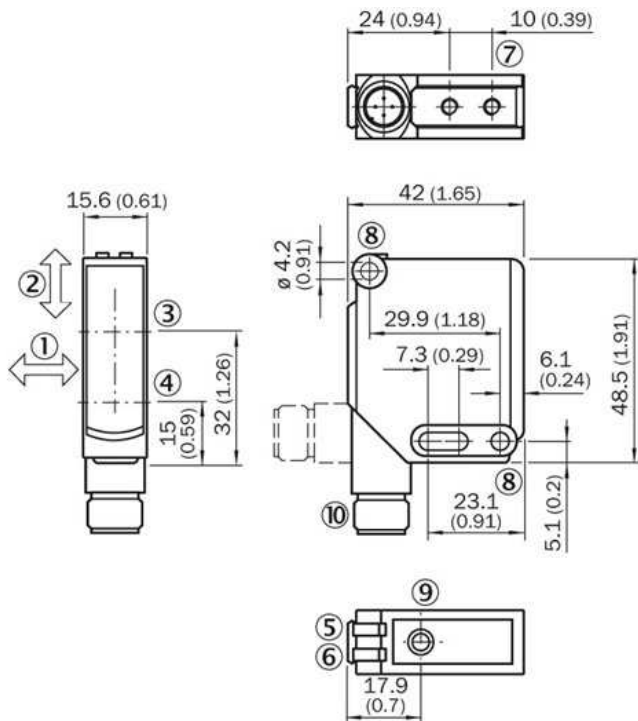
1) Adjustable background; referring to the background with 90 % remission (based on glass-bead blasted stainless steel, equivalent to standard white DIN 5033) 2)  
 Detection range transparent objects 3) Average service life of 100,000 h at  $T_A = +25\text{ °C}$

## Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Ripple:	$\leq 5\text{ Vpp}$ <sup>2)</sup>
Power consumption:	$\leq 55\text{ mA}$ <sup>3)</sup>
Output type:	NPN
Output function:	Complementary
Switching mode:	Light/dark switching
Output current I <sub>max.</sub> :	100 mA
Response time:	2 ms <sup>4)</sup>
Switching frequency:	250 Hz <sup>5)</sup>
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D <sup>6) 7) 8)</sup>
Protection class:	II
Weight:	120 g
Housing material:	Metal
Enclosure rating:	IP 66 IP 67
Special feature:	For transparent objects
Ambient temperature operation:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493
Signal voltage NPN HIGH/LOW:	Approx. $V_S / < 2.5\text{ V}$

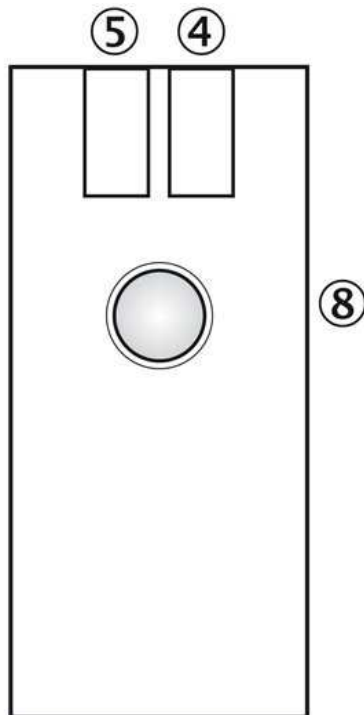
1) Limit values, operation in short-circuit protected network max. 8 A 2) May not exceed or fall short of  $V_S$  tolerances 3) Without load 4) Signal transit time with resistive load 5) With light/dark ratio 1:1 6) A =  $V_S$  connections reverse-polarity protected 7) C = interference suppression 8) D = outputs overcurrent and short-circuit protected

## Dimensional drawing



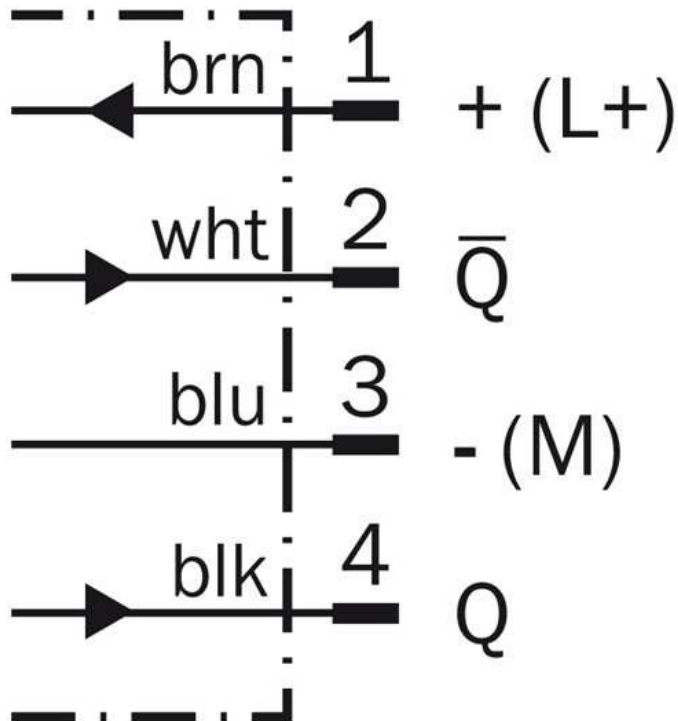
- |1| Recommended installation for the detection of transparent trays
- |2| Recommended installation for the detection of transparent bottles
- |3| Optical axis, receiver
- |4| Optical axis, sender
- |5| Status indicator LED green: power on
- |6| Status indicator LED, yellow: Status of received light beam
- |7| M4 threaded mounting hole, 4 mm deep
- |8| Mounting hole,  $\varnothing$  4.2 mm
- |9| Adjustment sensing range: single teach-in button
- |10| Connection

## Adjustments possible

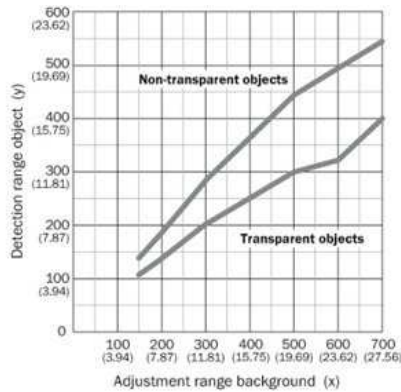


- |4| Status indicator LED green: power on
- |5| Status indicator LED, yellow: Status of received light beam
- |8| Adjustment sensing range: single teach-in button

## Connection diagram



## Characteristic curve



### Legend:

- x: Sensing range max. in mm (adjustment range background)  
= Distance sensor / background
- y: Sensing range in mm (detection range object)  
= Maximum distance sensor / front edge of the object

Minimum distance sensor / background : 150 mm\*

\* Referring to the background with 90 % remission equivalent to standard white DIN 5033 (i.e. glass bead blasted stainless steel). The use of a shiny background can increase the minimum distance to the background (i.e. brushed and pickled stainless steel, minimum distance sensor to background: 300 mm).

### How to use this diagram:

Measure the distance from the sensor to the metal surface in the background. This is the value for x (adjustment range background). If this is 500 mm for example, the maximum distance between the sensor and the leading edge of a transparent object is 300 mm.

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